

AMENDMENTS

In the Claims:

Please enter the following replacement claims, pursuant to 37 C.F.R. § 1.121(c), the replacement claims replace the correspondingly numbered prior pending claim.

All pending claims, whether added, rewritten, cancelled or amended, have been reproduced below for the convenience of the Examiner. Also included is a marked-up version of the prior pending claim showing the amendments made thereto.

Applicants respectfully submit that no amendments have been made to the pending claims for the purpose of overcoming any prior art rejections that would restrict the literal scope of the claims or equivalents thereof.

In the Claims:

1. (previously presented) A method for determining the current state of a lubricant which lubricates at least one pair of frictional coupling elements arranged to cooperate and transmit a torque when engaged, said pair of frictional coupling elements having reference slip characteristics associated with specific quality states of said lubricant, comprising determining current slip characteristics of said pair of frictional coupling elements, comparing said current slip characteristics to said reference slip characteristics and determining the current state of said lubricant from the results of said comparing, wherein said determination of the current state of a lubricant is performed in a vehicle during use.
2. (original) The method as specified in claim 1 wherein said reference slip characteristics are known for selected values of operating conditions and wherein said current slip characteristics are compared to reference characteristics corresponding to the current operating conditions.
3. (original) The method as specified in claim 2 wherein said operating conditions include torque transmission.
4. (original) The method as specified in claim 2 wherein said operating conditions include temperature.
5. (original) The method as specified in claim 2 wherein said operating conditions include force between said frictional coupling elements.
6. (original) The method as specified in claim 1 wherein an improper quality state of the lubricant is signaled to a vehicle operator.

7. (original) The method as specified in claim 1 wherein said determining current slip characteristics of said pair of frictional coupling elements comprises measuring the rotational speed of each coupling element of said pair of frictional coupling elements and determining current slip characteristics from the results of said measuring.
8. (original) The method as specified in claim 1 wherein said comparing current slip characteristics to said reference slip characteristics is performed in a processor.
9. (original) The method as specified in claim 8 wherein said reference slip characteristics are stored in a memory associated with said processor.
10. (original) The method as specified in claim 1 wherein said determining the current state of said lubricant comprises generating a signal when the value of said current slip characteristics differs from a reference slip characteristic value by a predetermined amount.
11. (previously presented) A method for determining the current state of a lubricant which lubricates at least one pair of frictional coupling elements arranged to cooperate and transmit a torque when engaged, said pair of frictional coupling elements having reference slip characteristics associated with specific quality states of said lubricant, comprising determining current slip characteristics of said pair of frictional coupling elements, comparing said current slip characteristics to said reference slip characteristics and determining the current state of said lubricant from the results of said comparing, wherein said determining current slip characteristics of said pair of frictional coupling elements comprises measuring the rotational speed of each coupling element of said pair of frictional coupling elements and determining current slip characteristics from the results of said measuring.

12. (currently amended) A system for determining the current state of a lubricant, comprising:

a vehicle with a clutch housing;

a first frictional coupling element and a second frictional coupling element arranged within said clutch housing such that said first frictional coupling element and said second frictional coupling element can rotate and be lubricated by a lubricant;

at least one speed sensor coupled to said first and second coupling elements and which is capable of measuring the rotational speed of said first and second coupling elements; and

a control unit comprising means for comparing the difference of the rotational speed of said first and second coupling elements with a reference value.

13. (previously presented) The system of claim 12 further comprising a display device for displaying an alert to an operator of said vehicle.